a force and location imaging touch pad in accordance with one of claims **9** and **22** and operatively coupled to the mutual capacitance measurement circuit.

36. The electronic device of claim 35, wherein the electronic device comprises a computer system.

37. The electronic device of claim 35, wherein the electronic device comprises a mobile telephone.

38. The electronic device of claim 35, wherein the electronic device comprises a personal digital assistant.

39. A force imaging touch pad, comprising:

a first layer having a first plurality of conductive traces oriented in a first direction on a first surface thereof; and

a deformable dielectric membrane having a first surface and a second surface, the first surface juxtaposed to the first layer and the second surface having a second plurality of conductive traces oriented in a second direction;

wherein the first and second plurality of conductive traces are adapted to create a capacitance image when a force is applied to the first layer, the capacitance image indicative of an intensity of the applied force.

40. The force imaging touch pad of claim 39, wherein the first plurality of conductive traces and the second plurality of conductive traces are substantially orthogonal.

41. The force imaging touch pad of claim 39, wherein the deformable dielectric membrane comprises:

a substantially flat membrane having the first and second surfaces;

a first plurality of raised structures coupled to the first surface of the substantially flat membrane; and

a second plurality of raised structures coupled to the second surface of the substantially flat membrane, wherein the second plurality of raised structures are substantially offset from the first plurality of raised structures.

42. The force imaging touch pad of claim 39, wherein the deformable dielectric membrane comprises:

a substantially flat membrane having the first and second surfaces; and

a plurality of deformable beads affixed to one surface of the substantially flat membrane, wherein the deformable beads are adapted to compress when a force is applied to the first layer toward the second layer.

43. The force imaging touch pad of claim 39, further comprising a mutual capacitance measurement circuit electrically coupled to the first and second plurality of conductive traces.

44. The force imaging touch pad of claim 39, further comprising a third plurality of conductive traces on a second surface of the first layer, wherein the deformable dielectric membrane is juxtaposed closer to the third plurality of conductive traces than to the first plurality of conductive traces, the third plurality of conductive traces oriented in a third direction, and further wherein the first and third plurality of conductive traces are adapted to create a capacitance image when an object is brought into contact with the first layer, the capacitance image indicative of a location, relative to the first surface of the first layer, where the object contacts the first surface.

45. The force imaging touch pad of claim 44, wherein the first and third orientations are substantially the same and the second orientation is substantially orthogonal thereto.

46. A force and location imaging touch pad, comprising:

a first layer having a first plurality of conductive traces oriented in a first direction on a first surface and a second plurality of conductive traces oriented in a second direction on a second surface;

a deformable dielectric membrane having a first surface and a second surface, the first surface juxtaposed to the first layer and the second surface having a third plurality of conductive traces oriented in substantially the first direction; and

a base layer juxtaposed to the second surface of the deformable dielectric membrane,

wherein the first and second plurality of conductive traces are adapted to create a first capacitance image when one or more objects come into close proximity to the first surface, the first capacitance image indicative of where the one or more objects are located relative to the first surface,

wherein the second and third plurality of conductive traces are adapted to create a second capacitance image when a force is applied to the first layer, the second capacitance image indicative of an intensity of the applied force.

47. The force and location imaging touch pad of claim 46, wherein the first layer comprises a flexible circuit board.

48. The force and location imaging touch pad of claim 46, wherein the first layer comprises one or more layers of thermoplastic resin.

49. The force and location imaging touch pad of claim 46, wherein the first plurality of conductive traces and the second plurality of conductive traces are substantially orthogonal.

50. The force and location imaging touch pad of claim 46, wherein the second layer comprises a flexible circuit board.

51. The force and location imaging touch pad of claim 46, wherein the second layer comprises one or more layers of thermoplastic resin.

52. The force and location imaging touch pad of claim 46, wherein the deformable membrane comprises a first plurality of raised structures juxtaposed to the first surface of the deformable membrane and a second plurality of raised structures juxtaposed to the second surface of the deformable membrane, wherein the first and second plurality of raised structures are substantially spatially offset from one another.

53. The force and location imaging touch pad of claim 52, wherein the first and second plurality of raised structures comprise thermoplastic resin.

54. The force and location imaging touch pad of claim 46, wherein the deformable membrane further comprises a first plurality deformable beads.

55. The force and location imaging touch pad of claim 54, wherein the deformable beads comprise elastomer beads.

56. The force and location imaging touch pad of claim 46, further comprising a mutual capacitance measurement circuit electrically coupled to the first, second and third plurality of conductive traces.